

Claims

1 **Claim 1.** A sailing yacht, comprising:
2 a sailing hull;
3 a ballast;
4 a ballast-supporting structure that functions as means for supporting
5 the ballast beneath the sailing hull moveably in order to produce a
6 counter-heeling force that can be varied underway by movement of the
7 ballast-supporting structure; and
8 a ballast drive system onboard the sailing hull that functions as
9 means for moving the ballast-supporting structure in order to vary the
10 counter-heeling force, the ballast drive system including at least two
11 hydraulic cylinders arranged to move the ballast-supporting structure.

1 **Claim 2.** A sailing yacht as recited in claim 1, wherein a first one of the
2 two hydraulic cylinders is mechanically connected between the
3 ballast-supporting structure and a first portion of the hull, and a second
4 one of the two hydraulic cylinders is mechanically connected between the
5 ballast-supporting structure and a second portion of the hull.

1 **Claim 3.** A sailing yacht as recited in claim 1, wherein the two hydraulic
2 cylinders are arranged for parallel operation.

1 **Claim 4.** A sailing yacht as recited in claim 1, wherein the two hydraulic
2 cylinders are arranged for push-pull operation.

1 **Claim 5.** A sailing yacht as recited in claim 1, further comprising a motor
2 and pump system operatively connected to the two hydraulic cylinders,
3 which motor and pump system includes having at least two hydraulic
4 pumps to provide hydraulic pump redundancy.

1 **Claim 6.** A sailing yacht, comprising:
2 a sailing hull;
3 a ballast;
4 a ballast-supporting structure that functions as means for supporting
5 the ballast beneath the sailing hull moveably in order to produce a
6 counter-heeling force that can be varied underway by movement of the
7 ballast-supporting structure; and
8 a ballast drive system onboard the sailing hull that functions as
9 means for moving the ballast-supporting structure in order to vary the
10 counter-heeling force, the ballast drive system including at least two
11 hydraulic cylinders arranged to move the ballast-supporting structure;
12 wherein in a first one of the two hydraulic cylinders is mechanically
13 connected between the ballast-supporting structure and a first portion of
14 the hull, and a second one of the two hydraulic cylinders is mechanically
15 connected between the ballast-supporting structure and a second portion
16 of the hull; and
17 wherein the two hydraulic cylinders are arranged for parallel
18 operation.

1 **Claim 7.** A sailing yacht as recited in claim 6, further comprising
2 comprising a motor and pump system operatively connected to the two
3 hydraulic cylinders, which motor and pump system includes having at
4 least two hydraulic pumps to provide hydraulic pump redundancy.

1 **Claim 8.** A sailing yacht, comprising:

2 a sailing hull;

3 a ballast;

4 a ballast-supporting structure that functions as means for supporting
5 the ballast beneath the sailing hull moveably in order to produce a
6 counter-heeling force that can be varied underway by movement of the
7 ballast-supporting structure; and

8 a ballast drive system onboard the sailing hull that functions as
9 means for moving the ballast-supporting structure in order to vary the
10 counter-heeling force, the ballast drive system including at least two
11 hydraulic cylinders arranged to move the ballast-supporting structure;

12 wherein in a first one of the two hydraulic cylinders is mechanically
13 connected between the ballast-supporting structure and a first portion of
14 the hull, and a second one of the two hydraulic cylinders is mechanically
15 connected between the ballast-supporting structure and a second portion
16 of the hull; and

17 wherein the two hydraulic cylinders are arranged for push-pull
18 operation.

1 **Claim 9.** A sailing yacht as recited in claim 8, further comprising
2 comprising a motor and pump system operatively connected to the two
3 hydraulic cylinders, which motor and pump system includes having at
4 least two hydraulic pumps to provide hydraulic pump redundancy.